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PRE-FINAL REMEDIAL DESIGN REPORT
AND
DRAFT REMEDIAL ACTION WORK PLAN

GYPSUM STACK ROADS

SIMPLOT PLANT AREA
EASTERN MICHAUD FLATS SUPERFUND SITE

August 1, 2002

MFG, Inc.
consulting scientists and engineers

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August 1, 2002

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MFG Project No. 010121-3

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1.0 INTRODUCTION

This document presents J.R. Simplot Company's Pre-Final Remedial Design Report (RDR) and Draft Remedial Action Work Plan (RAWP) for the control of fugitive emissions from permanent roads on the gypsum stack in the Simplot Plant Area of the Eastern Michaud Flats (EMF) Superfund Site located near Pocatello, Idaho. This action is part of the comprehensive Site remedy as described in the Record of Decision (ROD; USEPA, 1998) and subsequent Consent Decree for the Simplot Plant Area (USEPA, 2002).

This RDR/RAWP describes the actions required to implement the Gypsum Stack Roads component of the final remedy. As described in the Statement of Work for the Simplot Plant Area (Appendix B to the Consent Decree), a treatability study is suggested to assess the effectiveness of several alternatives to reduce visible fugitive emissions generated by vehicular traffic on permanent roads on the face of the gypsum stack. The alternatives identified in the Statement of Work include road base placement over a geofabric, and various combinations of periodic applications of water with or without additives. Simplot has selected the placement of road base as the preferred remedial action for the gypsum stack roads. This selection is based on mixed results achieved through previous informal applications of dust control products on the roads, a desire to minimize ongoing maintenance requirements associated with achieving the performance standard, and a preliminary evaluation of capital and operations and maintenance costs for a gravel road option versus the purchase and operation of a water truck.

The tasks that comprise the relatively straightforward design portion of this remedial component are addressed herein in Sections 2 and 3 and include the presentation of existing conditions, a discussion of the required work activities, and procedures for confirming that the performance standards for this element of work have been achieved. Section 3.1 describes the evaluation of several alternatives to control dust emissions from the Gypsum Stack Roads. A set of construction drawings, graphically depicting the requirements of this work is provided as Appendix A. Because of the limited nature of the work, detailed technical specifications are not necessary to guide the completion of this element, however a statement of work has been prepared and is included as Appendix B. This Statement of Work will be

used in conjunction with the drawings and other contract documents to solicit bids from contractors and to guide the implementation of the remedial action.

The remedial action (RA) planning portion of this document is presented in Section 4, which provides a detailed plan of action for completing the remedial activities. This RA Work Plan portion of the document addresses construction sequencing and scheduling, construction management for the Gypsum Stack Roads remediation and reporting requirements during construction. The required elements of a Construction Quality Assurance Plan for the Gypsum Stack Roads element of work are addressed in Section 3.2. A Construction Health and Safety Plan, required by the Consent Decree Statement of Work, will be submitted under separate cover.

1.1 Site Description and Project History

The EMF Site is located near the City of Pocatello, Idaho and includes two industrial facilities (Drawing 0121C-110; Appendix A): the FMC Elemental Phosphorus Facility (ceased operations in December 2001) and the J.R. Simplot Don Plant. FMC produced elemental phosphorus. The Don Plant produces phosphoric acid and a variety of liquid and solid fertilizers. The EPA has divided the Site into three areas: The FMC Plant Area includes the FMC facility and adjacent land owned by FMC; The Simplot Plant Area includes the Don Plant and adjacent land owned by Simplot; and The Off-Plant Area which surrounds the FMC- and Simplot-Plant Areas.

The Simplot Don Plant covers approximately 745 acres and adjoins the eastern property boundary of the FMC facility. The main portion of the plant lies approximately 500 feet southwest of the Portneuf River. Of the 745 acres, approximately 400 acres are committed to the gypsum stack. Another 185 acres are occupied by the plant and its infrastructure. A significant portion of the remaining acreage to the south and southeast of the plant consists of cliffs and rugged steep terrain. A Union Pacific Railroad right-of-way is adjacent to the northern fence line of the Don Plant and passes through the northern portion of the Simplot Subarea, paralleling U.S. Highway 30. Access to the Don Plant is provided by I-86 and U.S. Highway 30.

The Don Plant began production of a single superphosphate fertilizer in 1944. Phosphoric acid production began in 1954. Currently, the plant produces 12 principal products, including five grades of solid fertilizers and four grades of liquid fertilizers. The principal raw materials for the process are phosphate ore, which is transported to the facility via a slurry pipeline from the Smoky Canyon mine, sulfur, and ammonia. The primary byproduct from the Don Plant process is gypsum (calcium sulfate) which is stacked on site.

An Administrative Order on Consent (AOC) was issued by the U.S. Environmental Protection Agency (EPA) on May 30, 1991 and entered into voluntarily by FMC and Simplot. The AOC specified requirements for implementation of a Remedial Investigation (RI) and Feasibility Study (FS) to evaluate site conditions and remedial alternatives to address any potential threats to human health and the environment. Based on the findings of these studies, EPA issued a Record of Decision (ROD; USEPA, 1998), specifying the selected remedial actions for the Site on June 8, 1998. A Consent Decree (USEPA, 2002) between EPA and Simplot, which specified the conditions for implementing the selected remedial actions in the Simplot Plant Area was entered on May 9, 2002.

1.2 Remedial Action Objectives and Performance Standard for Gypsum Stack Roads

As set out in the Consent Decree Statement of Work, the objective of this action is to reduce visible fugitive emissions generated by vehicular traffic on permanent roads located on the face of the gypsum stack.

The performance standard for this element of work is the successful implementation of the final design.

2.0 DESIGN CONSIDERATIONS

2.1 Permanent Gypsum Stack Roads

Gypsum (hydrated calcium sulfate) is the primary byproduct from the phosphate ore processing operations conducted at the Simplot Don Plant. Approximately 6,000 tons (dry weight basis) of gypsum is produced daily and slurried to the gypsum stack. The gypsum stack has three separate cells: the lower stack and the eastern and western cells of the upper stack. At the time of the RI, Simplot was using only the upper stack. The lower stack, which had been used historically, was returned to service around 1994 and now gypsum slurry is applied to each of the cells in turn on a schedule of approximately six weeks.

A rim ditching method is currently used to raise the gypsum stack. Under this method, track-mounted hydraulic excavators are used to pull up previously applied gypsum around the perimeter of each cell to construct new containment berms for each subsequent six-week cycle of slurry application. The most frequent operations/maintenance activity at the gypsum stack is the inspection and maintenance of the decant pumps located at the south side of the gypsum stack. Access to these pumps is achieved by following either the West Access Road or the East Access Road. These roads are permanent but are not located upon the gypsum stack, but rather bound the perimeter of the stack. The permanent gypsum stack roads, subject to this remedial action, are located on the north face of the gypsum stack, and are identified on Drawing 0121C-111 as the West Face Road and the East Face Road. The West Face Road is approximately 1,600 feet in length and the East Face Road is approximately 1,000 feet long. Dust may be generated from these stack roads as vehicles travel to and from the top of the stack. Wheeled vehicles use the roads to transport employees to work on the stack approximately four times per shift. Maintenance and fueling vehicles also travel the roads to repair and refuel the tracked stack-building equipment. Tracked equipment moves on and off of the stack for use in other areas of the plant and to reach other portions of the stack.

Several roads located in the vicinity of the gypsum stack are not included in this RDR. The East and West Access Roads, discussed previously, providing access to the south side of the stack around the base of the stack are not located on the face of the stack and are therefore not included. Temporary roads are located on the gypsum stack berms, but these roads move constantly as the

settling basin berms are raised. In addition, several other roads exist on the face of the stack, as indicated by the dashed lines on Drawing 0121C-111, however these roads are not considered permanent roads and in fact some are now abandoned. These temporary or abandoned roads may have been constructed to access the pipeline for repairs or for other one-time or infrequent uses.

2.2 Risk Characterization

Human health risks associated with the inhalation pathway were estimated in EPA's risk assessment (Ecology and Environment, 1996). For the Simplot Plant Area risks were estimated for current workers (maintenance workers and gypsum stack workers). Risks were also estimated for current residents and for hypothetical future residents living adjacent to the FMC and Simplot plants. An emission inventory for Simplot and FMC sources was presented in Appendix AE of the RI Report (Bechtel, 1996). As shown, at the time of the RI constituents were emitted to the air from numerous sources at both the FMC and Simplot facilities. Air monitoring data from Site 2 (outside and adjacent to FMC's northern fence line) were used to estimate risks.

For gypsum stack workers, total Incremental Cancer Risks (i.e., the estimated cancer risks in excess of background) were estimated at 6.0 E-6 for inhalation of the chemical carcinogens cadmium, hexavalent chromium and arsenic and 2.0 E-5 for inhalation of the radiological carcinogen polonium-210. For residents Incremental Cancer Risks due to inhalation of chemical carcinogens were estimated from 7.22 E-7 to 2.24 E-6 (the background cancer risk was estimated at 1.5 E-6). Risk drivers were arsenic cadmium and hexavalent chromium. For radiological carcinogens, lead-210 and polonium-210 were the major risk drivers with estimated Incremental Cancer Risks ranging from 2.96 E-6 to 1.11 E-5 (background risks were estimated at 2.8 E-5).

Risks estimated above have been reduced due to the closure of the FMC facility in December 2001 and the resultant elimination of emission sources associated with operation. For example, of the total arsenic emissions from the facilities, the RI inventory allocated approximately 91 percent to FMC and 9 percent to Simplot. For cadmium, approximately 95 percent were associated with FMC sources and 5 percent with Simplot sources, and for chromium 83 percent were associated with FMC and 17 percent with Simplot. For radionuclides, the inventory allocated 94 percent to FMC and 6 percent to

Simplot for lead-210, and 99.93 percent to FMC and 0.07 percent to Simplot for polonium-210. As shown, total emissions for the constituents of concern were much smaller for the Simplot Don Plant compared to the FMC facility.

The gypsum stack roads were identified as a relatively small source of constituents to air at the Simplot Don Plant. The RI emission inventory provides emission estimates for the entire gypsum stack operation (primarily roads and dike construction) and using these values will overestimate emissions from the roads alone. For arsenic, the total average emission from the stack was quantified at 0.05 percent of the total arsenic emissions from the FMC and Simplot facilities. Similarly, cadmium emissions from the stack were estimated at 0.21 percent of the total FMC/Simplot emissions and chromium emissions were estimated at 0.24 percent of the total. For radionuclides, the gypsum stack was quantified to emit 0.07 percent of the total FMC/Simplot emissions of lead-210 and 0.004 percent of the total polonium-210 emissions. While detailed modeling would be required to estimate the contribution of any one source to total air concentrations at a particular location, these values provide summary information on the low overall magnitude of the contribution of gypsum stack emissions to site-related risks associated with the air inhalation pathway.

As shown above, estimated risks associated with total emissions from the FMC and Simplot facilities during the RI are within the acceptable risk range of 10^{-6} to 10^{-4}. EPA's guidance (OSWER Directive 9355.0-30, "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions") states that EPA should clearly explain why remedial action is warranted if baseline risks are within the acceptable risk range of 10^{-6} to 10^{-4}. A risk manager may decide that a level of risk lower than 10^{-4} warrants remedial action where, for example, there are uncertainties in the risk assessment results. Simplot is not aware of any such explanation for the gypsum stack roads. In any event, it is worth noting that estimated health risks associated with emissions from the gypsum stack roads are minimal.

3.0 REMEDIAL DESIGN

This section of the RDR/RAWP provides a general discussion of the required elements of the Gypsum Stack Roads remedial action and a detailed description of the procedures for confirming that the performance standards are met. Construction drawings and a statement of work, which will be used to solicit bids from contractors and to guide the implementation of the remedial action are included in Appendices A and B, respectively.

3.1 Alternatives Evaluation

As discussed previously in Section 1.0, Simplot has selected the placement of gravel road base on the permanent roads on the face of the gypsum stack as the preferred remedial action for this element of work. Don Plant operations personnel have reported that tests have been performed in the past using dust control additives such as magnesium chloride. The results of these informal tests indicate that such application does not result in lasting dust control under the routine traffic conditions on these gypsum roads. The other option considered to address fugitive dust emissions was the routine watering of the roads. To evaluate this alternative a cost analysis was performed, comparing both capital and ongoing operational costs associated with the placement of road base versus the cost of purchasing and operating a water truck.

The cost estimates prepared in performing this evaluation are included as Tables 1 and 2. Table 1 presents an estimate of approximately $47,000 to place a non-woven geotextile fabric and six inches of gravel road base on the West and East Face Roads. Annual costs associated with maintaining the gravel roads in good condition are estimated at approximately $5,000 and include the cost to purchase and replace approximately 20% of the original quantity of road base each year. Table 2 presents a range of costs associated with the purchase of a water truck to be used to water the permanent face roads on the gypsum stack. These costs range from approximately $30,000 for a used water truck to $100,000 for a new water truck. Operating costs, assuming operation of the water truck four hours per day, seven days per week, twenty-six weeks per year, were estimated at $36,000 per year. Based on this cost evaluation it was determined that the placement of gravel road base is the most cost effective solution to achieve the objective and performance standard for this element of work.

3.2 Road Preparation

Prior to the placement of the geotextile fabric and gravel road base the permanent face roads will be graded to remove loose material, moisture conditioned and compacted to achieve a suitable subgrade for the placement of the road base. The roads shall be graded with a slight slope across the road surface from the outside edge of the road to the inside edge.

3.3 Geotextile Fabric

To provide a barrier between the gypsum and the gravel road base a geotextile fabric will be used to prevent the migration of fines and prevent the gravel from being packed down into the gypsum. For this purpose a non-woven geotextile with a minimum weight of eight ounces per square yard has been specified. The uphill edge of each roll of geotextile will be placed in a shallow anchor trench, approximately six inches deep, to prevent the movement of the fabric during gravel road base placement operations. Each subsequent roll of geotextile will be overlapped a minimum of three feet over the edge of the previous roll.

3.4 Gravel Road Base

A gravel road base with a maximum aggregate size of ¾-inch has been selected for use. This material shall meet the specifications of the Idaho Department of Transportation (IDOT) standard specifications for aggregate for untreated base, treated base and road mix contained in Section 703.04 of the IDOT highway specifications manual.

4.0 REMEDIAL ACTION PLAN

This section provides a detailed plan of action for completing the Gypsum Stack Roads remedial action and fulfills the requirements of the Remedial Action Work Plan, as described in the Consent Decree Statement of Work for the Simplot Plant Area. As discussed in Section 3.0, construction drawings and specifications are included as Appendices A and B, respectively. The proposed construction schedule and necessary quality control and quality assurance activities are also addressed in this section.

4.1 Proposed Schedule and Schedule Considerations

The Don Plant is an operating industrial facility and the gypsum stack is an integral part of the overall Don Plant process. Because the placement of the gravel road base on the permanent face roads of the gypsum stack may impact routine operations on these roads, the implementation of this remedial action will need to be closely coordinated with ongoing operations and scheduled during a time when the impacts can be minimized. It is anticipated that implementation of this component will be completed within 180 days following the approval of this RDR/RAWP document. It is estimated that the remedial action will take approximately 2 to 3 weeks to complete.

4.2 Mobilization and Site Preparation

Following approval of the RDR/RAWP by the EPA a contractor will be selected to perform the removal activities. After selection of a contractor and award of the contract, mobilization and site preparation will begin. Upon receipt of notice to proceed by Simplot, the contractor will mobilize personnel, equipment and materials to the site. Prior to the initiation of activities, utilities in and around the work area will be located. Care will be taken to identify possible underground and overhead hazards. Portable sanitation facilities will be provided for on-site personnel at the work area. Simplot maintains access control to all areas of the Don Plant including the gypsum stack. Additional site security for the remedial action is not anticipated.

4.3 Road Grading

Prior to the placement of geotextile and gravel road base, the full width of East and West Face Roads (approximately 12 feet) will be graded to remove loose material and create a smooth surface. The graded surface will be moisture conditioned through the application of water and compacted with a smooth drum or rubber-tired compactor a minimum of four passes, or until a stable subgrade is achieved. Only as much subgrade will be prepared in any given day as can be covered by road base.

4.4 Placement of Geotextile and Road Base

Following completion of grading and subgrade preparation activities, as approved by the designated field supervisor (See Section 5.1), the non-woven geotextile will be placed on the road surface. The upper end of the fabric will be anchored in a shallow, six-inch, anchor trench to avoid slippage and the placement of gravel road base will begin at the bottom of the road and proceed uphill. Gravel road base shall be placed in loose lifts of approximately 7 to 8 inches (or as necessary to achieve a compacted thickness of 6-inches), moisture conditioned as necessary and compacted to at least 90 percent of the maximum dry density as determined by the Standard Proctor Density Test (ASTM D-698) at a moisture content within 2 percent of the optimum moisture content. Field density tests will be performed at a frequency of one test per 500 linear feet of roadway.

4.5 Environmental Controls

Dust control activities will be performed with the goal of minimizing dust emissions from the work site. Perimeter and excavation area watering will be utilized, as necessary, to control off-site migration of contaminants via wind dispersion. Haul roads will be wetted as necessary to control dust emissions. Wetting will be performed in a manner so as not to saturate the soils.

4.6 Site Restoration and Clean-up

Site restoration activities will be implemented upon completion of gravel placement operation. These activities will include restoring all staging areas to their pre-construction condition and removing all trash and debris from the site.

5.0 CONSTRUCTION MANAGEMENT PLAN

The implementation of the Gypsum Stack Roads remedial action will be conducted generally as described in Section 4.0 of this report. This section presents an overview of the construction inspection and management procedures including a brief discussion of project roles and responsibilities.

5.1 Management of Remedial Actions

The J.R. Simplot Company has overall responsibility for the completion of the Gypsum Stack Roads remedial action. Mr. Ward Wolleson of Simplot is the project manager and will act as the Remedial Action Coordinator for this work. In this role, Mr. Wolleson will be responsible for representing the interests of Simplot and ensuring that the project objectives are met within the framework of the Consent Decree and Statement of Work. MFG, Inc., on behalf of Simplot, is responsible for the development of the Remedial Design and Remedial Action planning. Simplot's representative on-site during construction will be Mr. Dale Reavis, P.E. The on-site representative will be responsible for overall supervision of the remedial action construction. Simplot will designate a field supervisor to perform day-to-day management of the remedial action construction activities. The field supervisor will be responsible for overseeing and documenting the contractor's operations, for documenting and performing visual observation, and ensuring the performance of all necessary quality control and quality assurance activities. The U.S. Environmental Protection Agency (EPA) is the lead agency on the project and will be providing oversight of the RD/RA activities including document review and acceptance and oversight of field activities, as necessary. Ms. Linda Meyer is EPA's Remedial Project Manager and primary EPA contact.

The objective of the construction management activities is to ensure compliance with the approved project plans. The detailed plan for completing the RA activities, or RA Work Plan, is presented in Section 4.0 of this document. Although no significant changes are envisioned, material changes in the scope of work or procedures for the implementation of the work may be necessitated by currently unforeseen conditions. If this occurs, change management procedures will be initiated to facilitate the modification to the RA program and gain EPA approval. Proposed or necessitated changes will be presented in writing to the EPA for review and approval. This change request will identify: the

problem or situation that the change arose from; describe in detail the recommended change or modification suggested as a solution; and present an evaluation of the impact to the attainment of performance standards or schedule, if any. No deviations from the approved plans will proceed without approval of the EPA. Minor changes in the sequencing, site layout, or remediation procedures not in conflict with the intent of the project plans and specifications will be documented by the on-site representative and reported to the EPA's project manager, but will not require the initiation of formal change management procedures.

5.2 Quality Control and Quality Assurance

This section describes the general quality control and quality assurance procedures to be implemented by the construction management team to ensure compliance with the project performance requirements. Quality control refers to the procedures, methods and tests utilized by the construction contractor to achieve compliance with the plans and specifications, and quality assurance refers to the site inspection, checks and tests performed by the management team to ensure that the substantive requirements of the plans and specifications are met.

The primary quality control procedures to be utilized by the construction contractor include the use of adequately skilled personnel for the work being performed. The contractor will be required to submit information on all materials used for construction (i.e., non-woven geotextile material certifications, and gradations for the gravel road base) to confirm that the specifications are met. In addition, the contractor will be required to employ the services of an independent, third party subcontractor to perform quality control testing (compaction testing) for the road base. The Contractor will also be required to cooperate with the field supervisor in performing inspections and other quality assurance activities.

Quality Assurance procedures will primarily involve field inspections of the remediation project by the field supervisor. All procedures, materials, and equipment used in the construction will be observed and monitored by the field supervisor on a daily basis. The field supervisor will observe all quality control testing performed and will inspect the geotextile placement and the placement of the gravel road base to ensure that the minimum depth of six inches is achieved. Work elements that are not

in compliance with the plans and specifications will be reworked by the contractor so that the element is in compliance. All material submittals and quality control data supplied by the contractor will be documented by the on-site representative to allow complete project tracking of all components of the construction.

5.3 Construction Reporting

The field supervisor responsible for overseeing the remedial action construction activities will keep a daily log, or complete a daily report, documenting the following information:

- Date;
- Weather conditions;
- Start and stop times;
- Names of people working and tasks performed by each;
- Work locations and quantities of materials placed;
- Location and results of all quality control tests; and
- Any other item the field supervisor feels is appropriate to include in the log.

In accordance with the requirements of the Consent Decree and Statement of Work, monthly progress reports will be submitted to the EPA to provide a status of activities being conducted within the Simplot Plant Area. A section of this report will be dedicated to reporting on the progress of Gypsum Stack Roads activities, as appropriate.

Upon substantial completion of the Gypsum Stack Roads remedial activities, the EPA will be notified for the purpose of conducting a Prefinal Construction Inspection, which will consist of a walk-through inspection. If outstanding construction items are discovered during the inspection, a Prefinal Construction Inspection Report will be submitted, including details of outstanding construction items, actions performed to resolve the items, completion date and an anticipated date for the final inspection. The final construction inspection will evaluate items identified in the prefinal inspection. Within 30 days of the Final Construction Inspection, a Construction Completion Report will be submitted. This report will include descriptions of the remedial activities, field records and as-built drawings. This report will include a description of the project organization, the construction sequence, equipment and personnel

used during remedial activities, a description of design changes/field changes/change orders, a summary of all QA/QC testing, surveying and final project quantities. The final as-built drawings and certification report will be signed and stamped by an Idaho-registered Professional Engineer.

5.4 Construction Health and Safety Control

A Construction Health and Safety Plan will be prepared and submitted to the EPA under separate cover. This plan will detail the minimum health and safety requirements to be adhered to during the performance of remedial action activities. The construction contractor will be responsible for the health and safety of their construction crews and personnel during on-site activities. The Simplot on-site representative will be responsible for providing guidance and inspection to ensure that proper procedures are followed for health and safety of the public and visitors to the site during construction activities.

6.0 OPERATION AND MAINTENANCE

This section specifies the inspection and maintenance procedures that will be followed to ensure the integrity of the gravel road surfacing. Inspection of the East and West Face Roads will be performed semi-annually when the ground is not snow covered. An inspector will drive the roads and visually determine the condition of the gravel surfacing and assess its ability to continue to fulfill its intended objective of reducing dust emissions. Conditions that will be evaluated include erosion or displacement of the gravel surface that may expose the geotextile fabric and/or the gypsum surface, or intrusion of gypsum onto the surface of the road. Any erosion or other damage that either exposes underlying gypsum or results in gypsum on the driving surface will be repaired through grading operations and/or the placement of additional gravel road base.

7.0 REFERENCES

Bechtel. 1996. *Remedial Investigation Report for the Eastern Michaud Flats Superfund Site*. Bechtel Environmental, Inc. Prepared for FMC Corporation and the J.R. Simplot Company.

Ecology and Environment Inc., 1996. *Baseline Human Health Risk Assessment. Eastern Michaud Flats Superfund Site.* Prepared for EPA.

USEPA. 1998. *Record of Decision, Declaration Decision Summary and Responsiveness Summary for Eastern Michaud Flats Superfund Site*. Pocatello, Idaho, US EPA Region 10. June 1998.

USEPA. 2002. *Consent Decree for Remedial Design/Remedial Action for the Simplot Plant Area at the Eastern Michaud Flats Superfund Site*. US EPA Region 10. May 9 2002.

TABLES

TABLES

Table 1
Cost Analysis - Gravel Road Base

Gyspum Stack Roads RDR
Eastern Michaud Flats Superfund Site - Simplot Plant Area

	Unit	Est Qty	Unit Rate	Amount
Capital/Installation Costs				
Materials				
Gravel (Delivered)	tons	1260	$8.00	$10,080
Non-woven fabric	sy	4000	$1.50	$6,000
Placement				
Foreman	hr	64	$50.00	$3,200
Laborer	hr	64	$35.00	$2,240
Dozer (D7)	hr	56	$105.00	$5,880
Motor Grader	hr	64	$115.00	$7,360
Compactor	hr	56	$85.00	$4,760
Installation Subtotal				**$39,520**
Contingency	20%			$7,904
Total Capital/Installation Costs				**$47,424**
Annual Maintenance Costs				
Materials				
Gravel (Delivered)	tons	240	$8.00	$1,920
Placement				
Foreman	hr	8	$50.00	$400
Dozer (D7)	hr	8	$105.00	$840
Motor Grader	hr	12	$115.00	$1,380
Compactor	hr	8	$85.00	$680
Total Annual Maint Costs:				**$5,220**

Notes:
1. Gravel quantities are based on 2600 feet of 12 foot wide road with 6 inches of gravel (600 cy = 1050 tons)
2. Twenty percent has been added to the estimated gravel qty for compaction.
3. Gravel road base costs are based on $4/ton at the pit plus 5% tax.
4. Delivery costs are based on using ten-wheel (12 cy/15 ton) end dumps making one trip per hour at $55 per hour. 2 trucks would be capable of delivering 240 tons/day
5. Unit rates for all equipment include operator. Costs are based on the assumption that trucks will be able to dump on the road. If loader is required to tram material, costs will increase.

Table 2
Cost Analysis - Water Truck Operation

Gyspum Stack Roads RDR
Eastern Michaud Flats Superfund Site - Simplot Plant Area

	Unit	Est Qty	Unit Rate	Total
Operating Costs				
Truck Operating Cost ($/hr)	hr	728	$26	$18,724
Labor (Driver)	hr	728	$24	$17,326
Annual Operating Costs				**$36,051**
Capital Costs - Truck Purchase				
Used Truck - 1986 GMC 2,000 gal				$23,500
Used Truck - 1993 Volvo 2,500 gal				$29,500
Used Truck - 1994 Mack 4,000 gal				$43,500
New Truck - 2002 GMC 4,000 gal				$100,000

Notes:
1. Operating costs are based on 1994 *Rental Rate Blue Book* costs of $20.30 escalated 3% per year for 8 years.
2. Operating costs include fuel, oil, tires, and routine maintenance and repair (Based on relatively new equipment).
3. Operating costs do not include major overhaul costs or ownership costs such as depreciation.
4. Labor costs for the water truck are based on $17 per hour with a multiplier of 1.4 for fringe.
5. Assumes operation 4 hrs/day, 7 days/wk, 26 weeks/yr

APPENDIX A

APPENDIX A

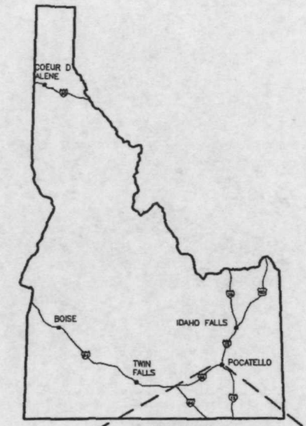
Construction Drawings

EASTERN MICHAUD FLATS SUPERFUND SITE

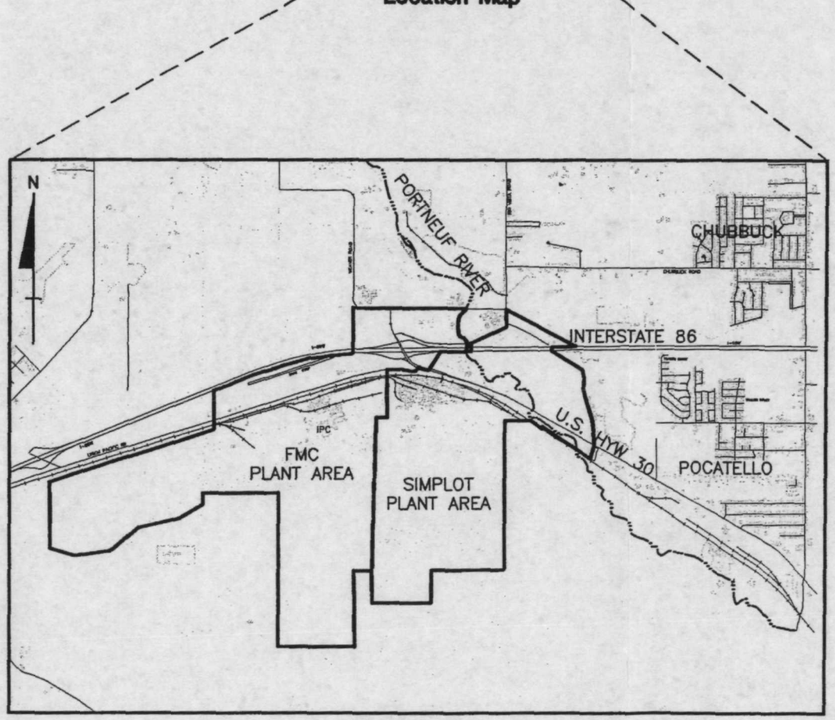
POCATELLO, IDAHO

SIMPLOT PLANT AREA
GYPSUM STACK ROADS PROJECT

SHEET TITLE	SHEET NO.
LOCATION & VICINITY MAPS & TITLE SHEET	0121C-110
GYPSUM STACK ROADS	0121C-111
TYPICAL SECTION & DETAILS	0121C-112



IDAHO
Location Map



VICINITY MAP
SCALE
0.5 0 0.5 MILE

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REFERENCE

NO.	REVISIONS	BY	DATE
0	ISSUE FOR REVIEW	DLL	05/02

DESIGNED BY:	DLL
DRAWN BY:	SCG
CHECKED BY:	ACK
APPROVED BY:	DLL
CTB:	MFG-STD
VIEW NAME:	PLAN
ORIGINATION DATE:	05/21/02
PLOT SCALE:	1:1 OR 1:2
DATE:	MAY 2002

EASTERN MICHAUD FLATS
POCATELLO, IDAHO
SIMPLOT PLANT AREA
GYPSUM STACK ROADS RA

LOCATION & VICINITY MAPS & TITLE SHEET

DRAWING NO. 0121C-110
REV.NO. 0
SHEET 1 OF 3

Plot time: 11:48 am
Plot date: 6/13/02
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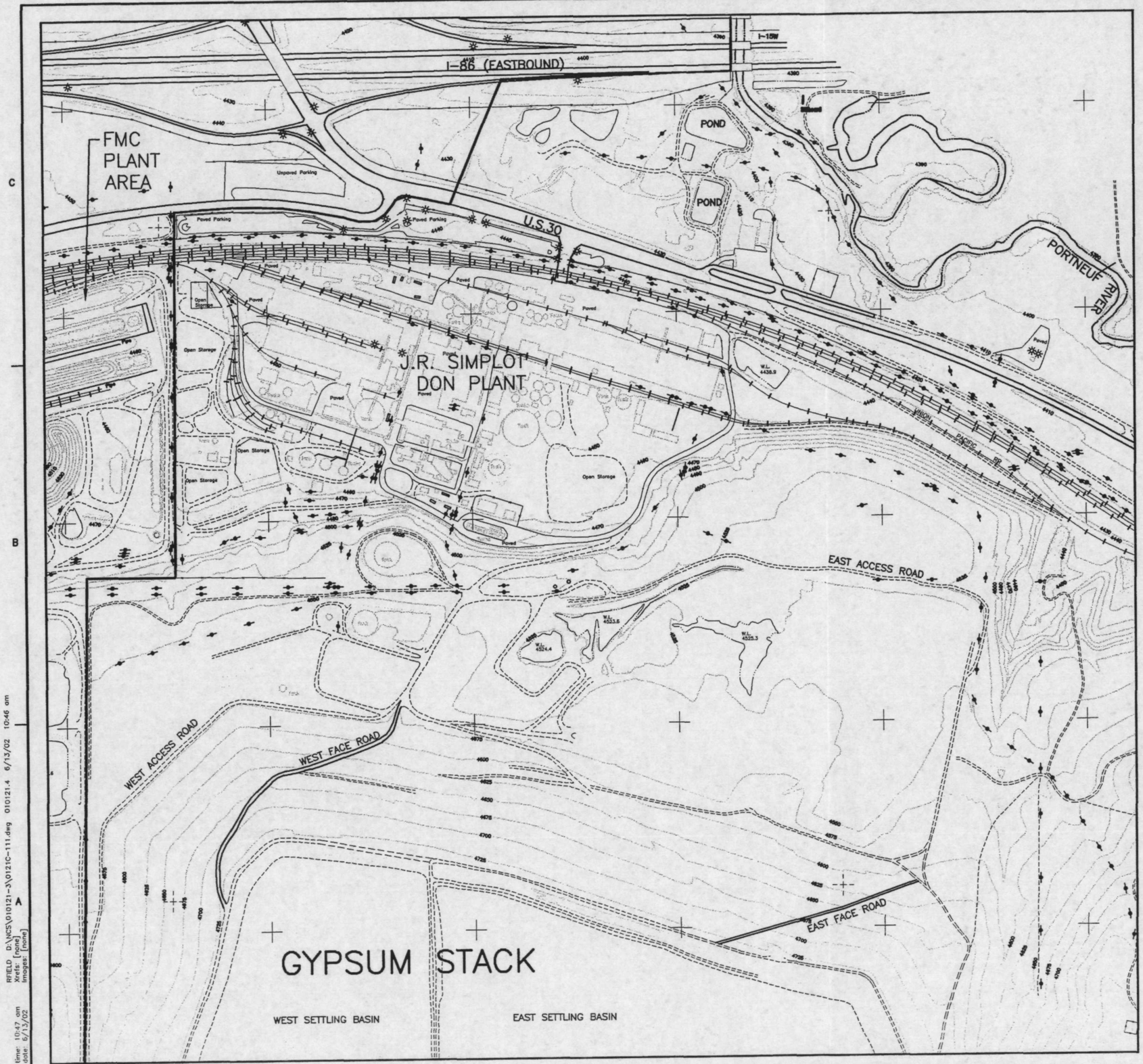
Images: [none]



LEGEND:

PERMANANT ROADS ON GYPSUM STACK FACE

NOTES:

1. CONTRACTOR MUST COMPLY WITH ALL SIMPLOT TRAFFIC AND SAFETY RULES AND REGULATIONS WHEN TRAVELING THROUGH THE DON PLANT.
2. ALL HAUL TRAFFIC MUST BE CONFINED TO DESIGNATED HAUL ROUTES.
3. GRADE WEST FACE ROAD AND EAST FACE ROAD. INSTALL NON-WOVEN GEOTEXTILE AND PLACE SIX INCHES OF GRAVEL ROAD BASE.

N

SCALE
250 0 250 FEET

MFG
consulting scientists and engineers
4900 Pearl East Circle, Suite 300W,
Boulder, Colorado 80301
Phone (303) 447-1823
Fax (303) 447-1836

REFERENCE

- BECHTEL ENVIRONMENTAL, INC., DATE OF PHOTOGRAPHY: 21JUNE92. DATE OF MAPPING: AUGUST 92 MAPPING AND PHOTOGRAPHY BY WALKER AND ASSOCIATES, INC. SEATTLE, WASHINGTON. SEATTLE, WASHINGTON

NO.	REVISIONS	BY	DATE
0	ISSUE FOR REVIEW	DLL	05/02

DESIGNED BY:	DLL
DRAWN BY:	SCG
CHECKED BY:	ACK
APPROVED BY:	DLL
CTB:	MFG-STD
VIEW NAME:	PLAN
ORIGINATION DATE:	04/29/02
PLOT SCALE:	1:1 OR 1:2
DATE:	MAY 2001

EASTERN MICHAUD FLATS
POCATELLO, IDAHO
SIMPLOT PLANT AREA
GYPSUM STACK ROADS RA

GYPSUM STACK ROADS SITE PLAN

DRAWING NO. 0121C-111
REV.NO. 0
SHEET 2 OF 3

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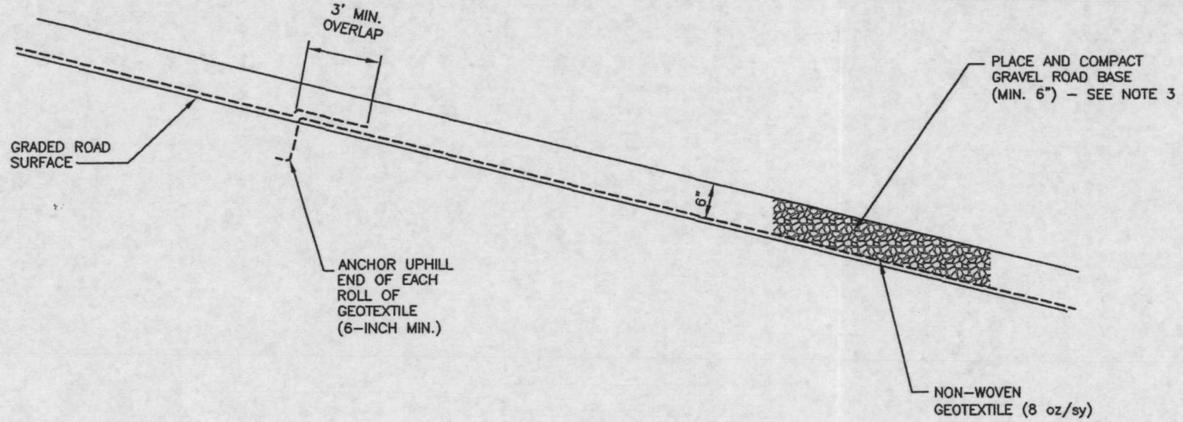
Plot date: 6/13/02



TYPICAL ROAD SECTION / PROFILE

NOT TO SCALE

NOTES:

1. PRIOR TO PLACEMENT OF FABRIC AND GRAVEL GRADE, MOISTURE CONDITION AND COMPACT EXISTING ROAD SURFACE USING A SMOOTH DRUM OR RUBBER-TIRED COMPACTOR, 4 PASSES MINIMUM.
2. GRADE ROAD SURFACE TO ACCOMMODATE GRAVEL PLACEMENT WITH A SLIGHT SLOPE ACROSS THE ROAD FROM OUTSIDE TO INSIDE EDGE.
3. ADD WATER TO GRAVEL ROAD BASE TO ACHIEVE MOISTURE CONTENT WITHIN 2% OF OPTIMUM MOISTURE CONTENT AND COMPACT TO ACHIEVE 90% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-698.

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Fax (303) 447-1836

REFERENCE

- BECHTEL ENVIRONMENTAL, INC., DATE OF PHOTOGRAPHY: 21JUNE92 DATE OF MAPPING: AUGUST 92 MAPPING AND PHOTOGRAPHY BY WALKER AND ASSOCIATES, INC. SEATTLE, WASHINGTON. SEATTLE, WASHINGTON

NO.	REVISIONS	BY	DATE
0	ISSUE FOR REVIEW	DLL	05/02

DESIGNED BY:	DLL
DRAWN BY:	RHF
CHECKED BY:	ACK
APPROVED BY:	DLL
CTB:	MFG-STD
VIEW NAME:	PLAN
ORIGINATION DATE:	04/29/02
PLOT SCALE:	1:1 OR 1:2
DATE:	JUNE 2002

EASTERN MICHAUD FLATS
POCATELLO, IDAHO
SIMPLOT PLANT AREA
GYPSUM STACK ROADS RA

TYPICAL SECTIONS & DETAILS

DRAWING NO. 0121C-112
REV.NO. 0
SHEET 3 OF 3

Plot time: 1:54 pm
Plot date: 6/18/02
RFIELD
Xrefs: [none]
Images: [none]
D:\NCS\0101121-3\0121C-112.dwg 010121.4 6/18/02 1:54 pm

APPENDIX B

APPENDIX B

Contractor Statement of Work/Specifications

SIMPLOT PLANT AREA
GYPSUM STACK ROADS PROJECT
POCATELLO, IDAHO

STATEMENT OF WORK / PROJECT SPECIFICATIONS

A. Background Information

The Eastern Michaud Flats (EMF) Superfund Site Gypsum Stack Roads Project consists of overlaying the permanent Gypsum Stack roads on the face of the stack with geofabric, and gravel road base to reduce visible fugitive emissions generated by vehicular traffic. The permanent roads contain an overall length of approximately 2,600 feet. These roads are traveled by wheeled vehicles transporting employees to work on the stack, maintenance and fueling vehicles, and tracked equipment used at various locations around the plant.

This project is being conducted by the J.R. Simplot Company, hereinafter referred to as the Owner, in accordance with a Remedial Action Work Plan prepared as directed under a Consent Decree between Simplot and the US Environmental Protection Agency.

B. Supervision

All work will be performed in the presence of an authorized representative of the Owner or designated Field Supervisor. The Field Supervisor will be the Owner's representative during construction to monitor the progress of construction and the quality of the work, and to record the data necessary to document the satisfactory completion of the project. The Field Supervisor will not be responsible for construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs required for the work.

The Contractor shall maintain a competent staff at all times to supervise and perform the work. The Contractor shall maintain on the project during its progress, a competent supervisor, satisfactory to the Owner.

C. Contractor Health & Safety

The Contractor acknowledges that the gypsum may pose a potential inhalation risk, and shall conduct all construction activities in a manner to minimize this risk. Contractor shall prepare for and conduct all operations at the site in a manner to avoid risk of bodily harm to persons or damage to property and in full

compliance with OSHA, the health and safety provisions of the contract documents, site-specific health and safety requirements of the Simplot Don Plant, and any and all other applicable authorities. Contractor shall prepare and submit a site specific Health and Safety Plan (HASP) that includes a construction safety program. The HASP shall be prepared in accordance with provisions in 29 CFR 1910.120, Simplot Don Plant requirements and other federal, state and local regulations. All contractor personnel on-site must comply with the training requirements of OSHA contained in 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER).

D. Contractor Scope of Work

Upon receipt of notice to proceed by Owner, Contractor will mobilize personnel, equipment, and materials to the site. Contractor shall use an adequate number of skilled workers experienced in the type of work to be performed. Prior to the start of start of Work, contractor shall be solely responsible for locating utilities in and around the work area. Care will be taken to identify all possible underground and overhead hazards. Contractor shall provide portable sanitation facilities for on-site personnel at the work area. Contractor shall keep the site free from any unnecessary accumulation of waste materials and rubbish and shall maintain the site in a safe and tidy condition at all times. Simplot maintains access control to all areas of the Don Plant, and additional site security on the part of the Contractor is not anticipated. Work activities are to be coordinated with on-going operations and scheduled during a time when the effects on plant operations can be minimized. Work is to be avoided at times when excavation and transportation activities may be hindered by frozen or excessively wet ground.

Prior to the placement of the geotextile fabric and gravel road base the full width of the East and West Face Roads (approximately 12 feet) are to be graded to remove loose material and create a smooth surface. The graded surfaces are then to be moisture conditioned through the application of water and compacted with a smooth drum or rubber tired compactor a minimum of four passes, or until a stable subgrade is achieved. Only as much subgrade as can be covered by the end of the workday is to be prepared on any given day. Grade roads with a slight slope across the road surface from the outside edge of the road to the inside.

Once grading and subgrade preparation is complete, and approved by the field supervisor, place the non-woven geotextile on the road surface. The non-woven geotextile is to have a minimum weight of eight

ounces per square yard. Place the uphill edge of each roll in a shallow, six-inch anchor trench to avoid slippage. Overlap adjacent rolls in the downhill direction a minimum of 3 feet.

Contractor will use gravel road base with a maximum aggregate size of ¾-inch. This material shall meet the specifications of the Idaho Department of Transportation (IDOT) standard specifications for aggregate for untreated base, treated base and road mix contained in Section 703.04 of the IDOT highway specifications manual. Gravel road base is to be placed in loose lifts of approximately 7 to 8 inches (or as necessary to achieve a compacted thickness of 6 inches). Gravel road base is to be moisture conditioned as necessary and compacted to achieve at least 90 percent of the maximum dry density as determined by the Standard Proctor Test (ASTM D-698) at a moisture content within 2 percent of optimum moisture content. Contractor is to perform in place field density tests for quality control at a frequency of one test for every 500 linear feet of roadway.

The Contractor is required to maintain a water truck on-site for dust control. Dust control activities are to be performed to minimize dust emissions from the site. Apply water, as necessary, to the haul roads and perimeter work areas, to minimize and control dust emissions. Dust control is to be performed so as not to saturate the soils. Care must be taken to insure no gypsum material is tracked off site.

Following completion of the work, Contractor shall restore all the staging areas to their pre-construction condition and remove all trash and debris, leaving the site in a clean, stable condition.

OFFICE LOCATIONS

CALIFORNIA
Arcata
Irvine
San Francisco

COLORADO
Boulder

FLORIDA
Jacksonville

IDAHO
Osburn

MONTANA
Missoula

NEW JERSEY
Edison

PENNSYLVANIA
Pittsburgh

TEXAS
Austin
Houston
Port Lavaca
Texarkana

WASHINGTON
Seattle

CORPORATE HEADQUARTERS

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